

CLAIMS

1. An electronically controlled paintball gun for pneumatically propelling a paintball projectile through a gun barrel toward a remote target; the gun comprising:

- an elongated tube aligned with said barrel;
- a high pressure air chamber having an outlet aligned with said tube for
5 directing high pressure air through said tube for propelling said paintball;
- a piston configured for selectively opening and closing said high pressure air chamber outlet; and
- a piston control chamber for causing said piston to open and close said
outlet depending on whether pressure is applied to or released from said piston control
10 chamber.

2. In a compressed-gas electronically controlled gun for firing paintball projectiles through a barrel toward a remote target and having a breech aligned with the barrel for receiving each of the projectiles to be fired, a piston valve assembly for controlling pressurized gas for loading and propelling the projectiles; the assembly
5 comprising:

- an elongated tube aligned with said breech;
- a moveable piston positioned at an open end of said tube adjacent a
valve seat at said tube end;

a first gas chamber for receiving gas under low pressure for moving said
10 piston into engagement with said valve seat;
a second gas chamber for receiving gas under high pressure while said
piston is engaged with said valve seat; and
a third gas chamber for receiving gas under low pressure for moving said
piston away from said valve seat to suddenly release said high pressure gas from said
15 second gas chamber into said tube to propel said projectile out of said breech and
through said barrel.

3. The assembly recited in claim 2 wherein said first, second and third gas
chambers are controlled by an electronic actuator.

4. The assembly recited in claim 2 wherein said piston has a seal for
engaging said valve seat.

5. The assembly recited in claim 2 further comprising a pneumatic valve for
controlling gas flow into said first and third gas chambers.

6. The assembly recited in claim 5 wherein the time required to transfer gas into said first and third gas chambers may be adjusted.

7. The assembly recited in claim 2 wherein said gas comprises air.

8. The assembly recited in claim 2 wherein said tube is a circular cylinder.

9. An electronically controlled paintball gun for pneumatically propelling a paintball projectile through a gun barrel toward a remote target; the gun comprising:

an elongated tube aligned with said barrel;

5 a high pressure air chamber having an outlet aligned with said tube for directing high pressure air through said tube for propelling said paintball;

a piston configured for selectively opening and closing said high pressure air chamber outlet; and

10 at least one piston control chamber for causing said piston to open and close said outlet depending upon whether said piston control chamber is filled with or drained of pressurized air.

10. The paintball gun recited in claim 9 further comprising a pneumatic valve for controlling air flow into said piston control chamber.

11. The paintball gun recited in claim 9 wherein said pneumatic valve is actuated electronically.